



## Level 1 Validation Summary Notes

This document includes detailed notes about utility practices as reviewed during third-party level-one water audit validation.

This document is not a required submission to the California Department of Water Resources. It is meant to provide background and documentation of the validation process.

### Call Information

Utility	Validator
Utility Name: Georgetown Divide Public Utility District	Validator: Isabel Szendrey, Water Systems Optimization
Utility Participants: Adam Brown	Validator Qualifications: Water Audit Validator Certificate from the AWWA California Nevada Section
Call Date: 9/17/2019	

### Validation Call Notes

Audit Input	Grade	Audit Input Notes	Data Validity Grade Notes
Volume from Own Sources	5	<a href="#">Source Meter Profile</a> : Two water treatment plants supply volume of own sources. One finished water meter at each plant. <a href="#">Derivation</a> : Manual reads from production meters as archived. <a href="#">Comments</a> : Input derivation from supporting documents confirmed. Exclusion of non-potable volumes confirmed.	<a href="#">Approximate Percent of Volume Metered</a> : 100% <a href="#">Approximate Percent Tested and/or Calibrated</a> : 50% <a href="#">Calibration Frequency</a> : Annual. <a href="#">Volumetric Testing Frequency</a> : None. <a href="#">Volumetric Testing Method</a> : n/a. <a href="#">Comments</a> : No additional comments.
Volume from Own Sources Master Meter and Supply Error Adjustment	3	<a href="#">Derivation</a> : Left blank in absence of available test data. <a href="#">Change in Storage Considered</a> : No. <a href="#">Comments</a> : No additional comments.	<a href="#">Source Meter Read Method</a> : Manual. <a href="#">Source Meter Read Frequency</a> : Daily. <a href="#">Data Review Practices</a> : Monthly. <a href="#">Real-Time Storage Level Monitoring</a> : Yes. <a href="#">Comments</a> : Production data is not logged automatically and net storage change as limiting criteria for DVG.
Water Imported	n/a	<a href="#">Import Meter Profile</a> : No import volume	
Water Imported Master Meter and Supply Error Adjustment	n/a	<a href="#">Derivation</a> : n/a	
Water Exported	n/a	<a href="#">Export Meter Profile</a> : No export volume	
Water Exported Master Meter and Supply Error Adjustment	n/a	<a href="#">Derivation</a> : n/a	

Billed Metered Authorized Consumption	5	<b>Derivation:</b> <b>Customer Meter Profile:</b> Read Frequency: Bi-monthly. Reading Technology: Manual. Age Profile: Most meters approx. 40 years <b>Comments:</b> Lag-time correction is not employed in input derivation. Input derivation from supporting documents confirmed. Exclusion of non-potable volumes confirmed.	<b>Approximate Percent Metered:</b> 100% <b>Small Meter Testing Practices:</b> Reactive - complaint based or flagged-consumption testing only. <b>Number of Small Meters Tested:</b> Few/ year <b>Large Meter Testing Practices:</b> None. <b>Number of Large Meters Tested:</b> None <b>General Replacement Practices:</b> Upon failure only. <b>Billing Data Review:</b> Standard billing QC, plus review of volumes by use type each billing cycle. <b>Comments:</b> No additional comments.
Billed Unmetered Authorized Consumption	n/a	<b>Profile:</b> No unmetered accounts	n/a
Unbilled Metered Authorized Consumption	n/a	<b>Profile:</b> No unbilled metered accounts	<b>Policy for Billing Exemptions:</b> Limited to own facilities.
Unbilled Unmetered Authorized Consumption	5	<b>Profile:</b> Uses include GDPUD building, 2 water treatment plants, operational flushing and fire department usage. <b>Comments:</b> Previous year's estimate of known uses was equivalent to approximately 0.25% of supply volume. Additional 0.25% of supply volume assumed for other uses.	<b>Comments:</b> Estimates provided for some uses but not all.
Unauthorized Consumption	5	<b>Comments:</b> Default input applied.	<b>Comments:</b> Default grade applied.
Customer Metering Inaccuracies	3	<b>Derivation:</b> Calculated as simple average of a very limited meter study performed in 2014. <b>Comments:</b> No additional comments.  <small>*See BMAC comments regarding meter testing &amp; replacement activities.</small>	<b>Customer Meter Testing:</b> Limited (upon request AND consumption flag only). <b>Customer Meter Replacement:</b> Limited (upon failure only). <b>Comments:</b> No additional comments.
Systematic Data Handling Errors	5	<b>Comments:</b> Default input applied.	<b>Comments:</b> Default grade applied.
Length of Mains	3	<b>Derivation:</b> Totaled from GIS based map. <b>Hydrant Laterals Included:</b> Yes. <b>Comments:</b> No additional comments.	<b>Map Format:</b> Digital. <b>Asset Management Systems:</b> Not currently in place. <b>Map Update Process:</b> Some updates have been done recently. <b>Comments:</b> No additional comments.
Number of Service Connections	7	<b>Derivation:</b> Standard report run from billing system. <b>Basis for Query:</b> Account ID. <b>Comments:</b> No additional comments.	<b>Field Validation:</b> Accomplished through normal meter reading processes. <b>Estimate of Error:</b> 1%. <b>Comments:</b> No additional comments.

Average Operating Pressure	2	<p><b>How Pressure is Maintained:</b> System is mostly gravity fed. Small number of customers served by pumping. There are 8 pressure zones and 50 pressure reducing stations.</p> <p><b>Pressure Range:</b> 5 – 135 psi</p> <p><b>Derivation:</b> Rudimentary estimate.</p> <p><b>Comments:</b> No additional comments.</p>	<p><b>Pressure Data Collection:</b> Hydrant pressures taken during routine system flushing and/or hydrant testing.</p> <p><b>Real-Time Monitoring:</b> No real-time monitoring currently in place.</p> <p><b>Hydraulic Model:</b> None currently in place.</p> <p><b>Comments:</b> No additional comments.</p>
Annual Operating Cost	10	<p><b>Derivation:</b> From official financial reports.</p> <p><b>Comments:</b> Confirmed costs limited to water only, and water debt service included.</p>	<p><b>Auditing Practices:</b> Annually by a third party CPA.</p> <p><b>Comments:</b> No additional comments.</p>
Customer Retail Unit Cost	8	<p><b>Rate Structure:</b> Simple flat rate</p> <p><b>Derivation:</b> Total consumptive revenue divided by Billed Metered Authorized Consumption. Sewer charges are not based on water meter readings. Sewer revenues are not applicable.</p> <p><b>Comments:</b> No additional comments.</p>	<p><b>M36 Review:</b> Input calculations have not been reviewed by an M36 water loss expert.</p> <p><b>Comments:</b> No additional comments.</p>
Variable Production Cost	5	<p><b>Primary Costs:</b> Own sources only.</p> <p><b>Secondary Costs:</b> None currently included.</p> <p><b>Comments:</b> No additional comments.</p>	<p><b>M36 Review:</b> Primary costs only. Input calculations have not been reviewed by an M36 water loss expert.</p> <p><b>Comments:</b> No additional comments.</p>

#### Infrastructure & Water Loss Management Practices:

**Infrastructure age profile:** Most original infrastructure approx. 70 years old

**Infrastructure replacement policy (current, historic):** Replace as needed

**Estimated main failures/year:** 20      **Estimated service failures/year:**

**Extent of proactive leakage management:** None currently in place.

**Other water loss management comments:** No additional comments.